

**A RECOMMENDED ORGANIZATIONAL STRUCTURE FOR
THE CAROL STREAM FIRE PROTECTION DISTRICT**

EXECUTIVE PLANNING

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ABSTRACT

The Carol Stream Fire Protection District maintained a common hierarchical structure found in most small to medium size departments. As the community had grown in residential and industrial properties, the Fire District added fire stations and additional personnel. The problem was that the organizational structure of the Fire District was nontraditional in design and lacked a second-in-command position. As a result, employees and elected officials had questioned the effectiveness of the organizational structure.

The purpose of the research report was to recommend an organizational structure that would best serve the needs of the Fire District. An evaluative research procedure was conducted

to research the problem. Research questions to be answered were:

1. Why was the current organizational structure established for the Fire District?
2. What are the organizational structures of similar sized fire departments in the Chicago metropolitan area?
3. Is the private sector making organizational structure changes that are applicable to the Fire District?
4. Are there any National Standards applicable to the design of an organizational structure for a fire department?

The procedures required the researcher to review available literature and reports on the subject, and to conduct a survey of fire departments in the Chicago metropolitan area. The findings indicated that the original structure was established to improve functional assignments

and balance workload. The survey revealed that most similar sized fire departments have more chief officers and all have either a deputy or assistant chief position.

The report recommended that the Fire District create the position of Deputy Chief. It also recommended that the current positions of fire captain be changed to battalion chief with the assignments of training, operations, and fire prevention. Finally, it recommended that the current daytime assignment for chief officers be maintained as a method to reduce the overall number of chief officers needed for the department.

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INTRODUCTION

There are two basic principles on how a fire department should be organized. First, a plan should be developed which divides work among functional aspects of the department, such as training and fire prevention. Second, as the department increases in size and complexity, there is a need for additional coordination (Cote, 1997).

Most fire department organizational structures are based on a paramilitary model used for emergency incidents. The structures are intended to provide for clarity of assignments and strict control and supervision efforts. While the traditional hierarchical structure works effectively for emergency situations, there is a need to use resources differently for daily operations and programs (Snook, 1988).

For many years, the Carol Stream Fire Protection District maintained a common hierarchical structure found in most small to medium size departments. The Fire District is a typical fire department in a suburban metropolitan region. As the community has grown in residential and industrial properties, the Fire District has added or enlarged fire stations and increased its full-time staffing levels. In 1992, the Fire District reorganized its structure, addressing the managerial needs identified at that time. The problem is that the current organizational structure of the Fire District is nontraditional in design and lacks a second-in-command position. As a result, employees and elected officials have questioned the effectiveness of the organizational structure. The purpose of this research paper is to review and

recommend an organizational structure that will best serve the needs of the Carol Stream Fire Protection District.

An evaluative research procedure was used to research this problem. The researcher reviewed literature on the topic obtained from the National Emergency Training Center (NETC)

Learning Resource Center. In addition, a questionnaire was distributed to the entire active membership of the Metropolitan Fire Chiefs Association. The following research questions were to be answered:

1. Why was the current organizational structure established for the Fire District?
2. What are the organizational structures of similar sized fire departments in the Chicago metropolitan area?
3. Is the private sector making organizational structure changes that are applicable to the Fire District?
4. Are there any National Standards applicable to the design of an organizational structure for a fire department?

BACKGROUND AND SIGNIFICANCE

The Carol Stream Fire Protection District provides fire suppression, emergency medical, fire prevention and public education services to an area of about 14 square miles, with a population of 43,000. The Fire District includes all of the Village of Carol Stream and the surrounding areas of unincorporated DuPage County. The Fire District is located 30 miles west of the City of Chicago. Within the Fire District are 14 industrial parks, a number of large commercial

and business centers, and several motel/hotel complexes. The Fire District currently operates from

three fire stations with 57 full-time personnel and 8 part-time personnel. About 4,000 fire and medical incidents are handled each year.

The Fire District has been organized in two different ways since its creation in 1972. For

many years, the more typical organizational structure of chief, deputy chief, assistant chief and line personnel was used. The deputy chief was second-in-command and oversaw operations while the assistant chief directed the Fire Prevention Bureau. The organizational chart in place prior to 1992 is shown in Appendix A. In 1992, with the retirement of the chief and deputy chief,

a reorganization was recommended, which resulted in the elimination of the deputy and assistant chief positions and the creation of three fire captain positions. The three fire captains were assigned to daytime shifts with the division responsibilities of fire prevention, operations, and administration. The captains were also assigned as shift commanders, and as such were considered

similar to battalion chiefs in assignments and pay scale. The current organizational chart is contained in Appendix B.

The recommendation to change the structure indicated that it would improve the functional assignments, increase the number of management staff, increase productivity, and balance the workload. It was recognized that having the captains assigned to a daytime shift with

the responsibility to respond to incidents after office hours would reduce the need for shift

commanders or battalion chiefs. As the department grew in size, it was predicted that a deputy chief position would be needed in addition to the three captain positions (Bodane, 1991).

In 1996, the Board of Trustees completed a strategic plan for the Fire District. One item addressed in the plan was the goal of evaluating the current organizational structure and recommending any necessary changes. The goal included projecting both firefighting and management staffing of the Fire District (Mandarino, 1996). The 1997/98 budget and four year financial plan provided five year projections for firefighter and paramedic personnel based on the growth experience of the community and the increased service demands. The plan did not include justified projections for the management or organizational structure of the Fire District (Bodane, 1997).

This research report is relevant to the needs analysis section of the National Fire Academy's *Executive Planning* course in that it is attempting to identify the problem facing the Fire District and a possible solution that could be implemented. The organizational structure adopted for both emergency and nonemergency operations will determine the success of service delivery to residents, which is of great significance to the Carol Stream Fire Protection District.

LITERATURE REVIEW

For a fire department to operate effectively, there must be a organizational plan that details the relationships between the operating divisions and the total organization. The manner in which a department is ultimately organized is dependent upon the size and scope of the

department and its operations (Cote, 1997). According to Snook (1988), determining the proper

structure for an organization can be complicated due to the nature of the organization itself. Most

fire departments are organized based on functions or divisions.

The structure of a fire department is based on four organizational principles. Those principles include division of work, coordination, clearly established lines of authority, and unity of command. The most basic principle is the division of work based on the functions of the fire department, such as fire prevention, training, and communications. As the fire department increases in size, coordination of the various operating units is necessary. Each operational unit or division has established line of authority that shows its relationship to the total department. Unity of command indicates that each member of the organization reports to only one superior (Carter & Rausch, 1989).

There are two factors in determining the number of layers and management positions in a

fire department. The first is the various regulations and requirements for specialty areas and functions. Second, supervision is needed at all hours, every day of the year. Fire departments need

to act like businesses and not remain static. Many factors affect the fire service, including population increases, service demands, new technologies, and regulations. The organization structure must remain fluid and change with the environment (Forsberg, 1996).

Many fire service organizations are based on bureaucratic hierarchies which were established to provide strict command and control. This has often resulted in departments that

are layered with many levels of management. These excessive layers result in increased administrative burdens which ultimately affect customer service (Brown, 1995).

Most fire departments have organizational structures based on a paramilitary design. The focus is on power and control exercised through this structure (Hewitt, 1995). The number of supervisory chief officers needed depends on the size of the department. Various functions below the rank of chief can be combined in order to reduce the number required (National Fire Protection Association [NFPA], 1994). Too often, fire departments create positions and then fill them with high ranking officers. Later, when budget constraints are present, various administrative changes are implemented to reduce department management levels (Van Cleemput, 1994).

The ultimate responsibility of the fire chief is to structure an organization to carrying out a plan and not necessarily conform to any perceived tradition. The primary skills used to structure an organization are problem solving analysis and ability to prioritize. This allows a manager to use existing resources in the most effective manner. The responsibility to provide structure to an organization also means that if plans change, the organizations structure may need to change (Coleman, 1995).

One study recommended that ratio of 1 officer to 5 firefighters be maintained for emergency operations. It further suggested that this ratio may also be the benchmark for use of

the routine office management functions (Anderson, 1993). A flatter organization often cuts down on bureaucratic red tape and messages required to be sent up and down a chain of command. As a result of decentralization, the organization is closer to the customer and can better determine their needs (Brown, 1995).

Centralized controls can often generate more waste, not less. Those organizations that tend to be decentralized flatten their hierarchies and give authority to their employees (Gaebler & Osborne, 1992). Hewitt (1995) indicates that in the flatter organization, the chief officers must drop their traditional management positions and develop a new level of faith and trust in other officers.

When there is opposition to a flatten organization structure, it is often from middle managers. These managers often stand in the way of ideas and action, limiting information on their way up or down the chain of command. If an organization keeps many layers of management playing traditional roles, over control sets in. Hierarchical organizations divide themselves up into many layers and divisions, resulting in people identifying only with their turf (Gaebler & Osborne, 1992). Hoetmer (1996) noted that one of the benchmarks of fire protection excellence is combining selected staff and line positions.

Correlations were found between the number of managerial layers and the size of the fire department. The number of managerial layers tends to increase as the fire department grows in size. The average number of managerial levels is three. At a certain point, the management to

personnel ratio will begin to decrease as the department grows. This would seem to indicate that certain functional aspects are required regardless of the size of the department (Forsberg, 1996).

The organization that has been paramilitary in structure has not always been effective in dealing with the increased complexity of fire service operations. The organization must have some degree of structure in order to carry out its plans, but other relationships besides the hierarchical are appropriate (Coleman, 1995).

In response to budget reductions or limitations, many fire departments are forced to compress supervisory levels and increase duties and responsibilities of those who remain (Bridges, 1993). Nontraditional management positions can result in a lack of desire to be promoted. Some departments may experience a limited number of candidates for promotional processes due to a change in the work schedule (Van Cleemput, 1994).

In order to meet budgetary reductions, the Redondo Beach, California Fire Department instituted some changes in its organizational structure. The fire department management was typical in design, with one fire chief, one deputy chief, one battalion chief in fire prevention and one training captain, along with three battalion chiefs on 24 hour shifts. As a result of the reorganization, five management positions were staffed: fire chief, special services chief, emergency services chief, fire marshal, and administrative deputy chief. All of these positions were assigned to a forty hour work week (Bridges, 1993).

The Orange County, Florida Fire Department recently completed a major layoff that seriously changed its management structure. A number of layers of management were eliminated in favor of a flatter organization structure. This resulted in the new organization structure of four main branches of the department under one director. The concepts behind this change were consistent with the current public management philosophy that advocates reducing levels of hierarchy. Other fire departments need to learn from this instance and improve their performance and organization efficiency (McDowell, 1995).

In order to be efficient, an organization must delegate various roles and responsibilities to individuals. In the same manner that private sector managers have assistant managers or department heads to assist them in decisions and information flow, fire chiefs must be assisted by officers in making decisions for fire departments (Carter & Rausch, 1989).

At least one deputy chief is needed for all fire departments who is able to function in the absence of the fire chief. In some departments, the deputy chief can perform dual roles as well. Platoon chiefs can also be in charge of the department in the absence of the fire chief, unless there is a higher ranking officer designated (Carter & Rausch, 1989). The fire chief can determine the structure that best meets the department's needs. A second-in-command (deputy chief) brings standardization and uniformity to the department by ensuring that shift officers complete their assignments in the same way. The deputy chief is provided with the authority to purchase resources, schedule work, and oversee daily operations. It is the common link to the duty shifts of the department (Cratty, 1994).

Often the most given reason to retain a second in command position is to have a person who can fill in for the fire chief in his absence. If the typical supervisor to employee ratio is true, the fire chief should be able to supervise all of the major divisions without a second-in-command

(Brown, 1995).

The private sector has identified that a hierarchical structure with many layers of management no longer delivers competitive results. With this type of structure, the leader looks down at a neat and uniform definition of tasks and responsibilities. The front line employees look up at a host of controllers that enforce demands that soak up too much time and energy. As a result, many companies have spent the last decade trying to adjust their organizational structures.

They have downsized by eliminating layers of management. (Bartlett & Ghoshal, 1995).

The private sector recognizes that there are different ways of dividing or coordinating work in order to make an organization more effective and efficient. In many organizations, structural changes are made in order to reduce operating unit sizes and reduce bureaucratic tendencies (Kast & Rosenzweig, 1985).

There are a number of major corporations that have examined their structures, resulting in streamlining and removing of unnecessary bureaucracy. In the fire service, we have added layer and layer of supervision as new personnel or services are added (Brown, 1995).

Many public and private sector organizations have had a common belief over the past

several years that organizations must be flattened. These organizations believe that the number of

people in management and supervisory positions must be reduced. Too often, the practice of following the expert of today and the latest management trend is not necessarily the same as providing effective service (Hewitt, 1995).

Summary

There is some disagreement among private and public sector professionals on how best to

establish an organizational structure. Most would seem to agree that some type of structure based

on the functional areas of the fire department is needed. This reinforces the researcher's belief that the organization structure of the Fire District remain functional based.

It is evident that individual departments need to review their particular needs and implement a structure that best fits their situation. The number of officers should be based on the size and complexity of the department and the services it offers. While the current trend is toward

flatter organizations, it remains a local decision based on service demands and requirements.

The experiences of other departments in staff reductions is of concern to the researcher. These departments, facing budget cutbacks, reduced the management structure of the department

rather than the line functions. This indicates that these departments were probably "top heavy", a

position the researcher desires to avoid in the Fire District.

PROCEDURES

The research procedure used in this report consisted of a literature review that was conducted at the National Emergency Training Center Learning Resource Center in June, 1997. A

literature review was also conducted at the Carol Stream Fire Protection District Resource Library in the following months. During this same time period, a survey of area fire departments and districts was undertaken regarding organizational structure and design.

The survey was conducted to define the types of fire department organizational structures being used in the Chicago metropolitan area. The results of the survey could be compared with the Fire District's current organizational structure and determine how similar sized departments are operating.

The survey instrument consisted of four questions. The first question asked about the number of full-time employees in the most common positions known to the researcher. The second question asked the respondent to indicate the main responsibilities of the top three positions in a department below the fire chief. The third question examined the number of officers that work a 40 hour work week. The final question asked the respondent to indicate whether any changes in the current organizational structure are planned. The survey instrument is contained in Appendix C.

The survey instrument was piloted-tested by administering it to four fire chiefs in

neighboring communities. The pilot-tested fire chiefs indicated that the survey format was easily followed and that the meaning of each question was clear. Based on this finding, no changes were made in the instrumentation.

The researcher obtained the mailing addresses of the 117 active members of the Metropolitan Fire Chiefs Association. Each member was mailed a survey questionnaire and asked to return it by FAX or mail. There were 85 surveys returned to the researcher.

Project Limitations

The method upon which departments were selected to receive the survey was a major limiting factor in this research. By limiting the survey to those who were members of the Fire Chiefs Association, it is possible that a number of similar sized fire departments did not have an opportunity to participate.

Definition of Terms

Support Services. This term refers to major bureaus or functions of a fire department, such as fire prevention, training, personnel services, and information systems.

Division Chief. The position typically responsible for a major bureau or function of a fire department, such as fire prevention and training.

Assistant Chief. The position typically identified as second or third in command of the department.

Deputy Chief. The position typically identified as second or third in command of the department.

RESULTS

The results of this research project are from the literature review and from the survey instrument that was distributed to area fire departments. The main goal was to answer the research questions as outlined in the Introduction.

Research Question 1

Why was the current organizational structure established for the Fire District?

With the retirement of both the fire chief and the deputy chief, the organizational structure was reviewed with a recommendation for significant changes. The recommendation for the current organizational structure was based on the belief that it would improve functional assignments, increase the number of management staff, increase productivity, and balance the workload. By assigning the captains to a daytime shift with the responsibility of responding to emergency calls after office hours, it was believed that the need for shift commanders would be reduced. It was further recognized that as the department grew in size, a deputy chief position would be needed in addition to the current captain positions.

Research Question 2

What are the organizational structures of similar sized fire departments in the Chicago metropolitan area?

The majority of the survey data was sorted by population served by the fire department. Due to the limited number of responses in the 40,000 to 50,000 population category, a combined category of 30,000 to 50,000 was used.

Fire departments deemed similar in size to the Carol Stream Fire Protection District had 51 to 75 full-time employees and served a population between 30,000 and 50,000 people. Of the 85 respondents, 14.1% of the departments had between 51 and 75 full-time employees, while 16.5% of the respondents served a population of 30,000 to 50,000. Appendix D details the demographic information of the respondents.

Survey responses to the number of full-time personnel were analyzed to determine the ratio and number of chief officers. Appendix E details the complete analysis of these responses. On average, there were 4.6 chief officers for fire departments having 51 to 75 full-time employees. The ratio of chiefs officers to firefighters and lieutenants was 1:11.1. There are 1.6 chief officers for each fire station in similar sized departments.

Of fire departments serving this same population range, 92.8% have a deputy chief, 50% have an assistant chief, 50% have a division chief, and 21.4% have a battalion chief. All of the fire departments in this range have either a deputy or assistant chief position. Of those that have these positions, there are on average 1.1 deputy chief positions, 1.3 assistant chiefs, 1.6 division chiefs, and 3.0 battalion chiefs. Overall, 71.4% of the departments have more than one type of chief officer, not including the fire chief.

In fire departments that have a deputy chief, 69.2% also have an assistant or division chief. In addition, 38.4% of those departments have more than one assistant or division chief. Finally, 30.7% of the departments with a deputy chief have more than one. In those departments, 100%

also have an assistant or division chief.

Survey responses to the major responsibilities of selected chief officer positions were analyzed to determine the assignments typically given to these positions. Appendix F details the results of that analysis.

Departments having a deputy chief reported the major areas of responsibility as operations (77.8%), support services (15.5%), and shift supervisor (6.7%). Assistant chief positions were reported as support services (50%), operations (45%), and shift supervisor (5%). Finally, departments having the division chief position indicated responsibilities of fire prevention (57.3%), training (28.5%), operations (9.5%), and support services (4.7%).

Survey responses to departments having daytime chief officers were analyzed. Appendix G details those responses. All similar sized fire departments reported that they had daytime chief officers other than the fire chief. Of those departments, the average number of daytime chief officers was 2.4, not including the fire chief.

Survey respondents were provided the opportunity to detail any planned changes in the organizational structure. Appendix H details the analysis of those responses. Of similar sized departments, one had planned changes, which was to add shift commanders to 24 hour shifts.

Research Question 3

Is the private sector making organizational structure changes that are applicable to the Fire District?

A number of private sector organizations have moved toward a flatter organization structure. The common belief is that the number of management positions must be reduced. Some organizations indicate that an increased number of management positions or layers may affect the ability of the organization to be competitive. The private sector recognizes that there are alternate ways of dividing the work load and making the company more effective. Companies are reducing bureaucratic tendencies by making structural changes in the organization.

Private sector employees look at the hierarchical structure as being a large number of controllers that have many demands that are unnecessary. In response, many companies have eliminated those layers of management.

Research Question 4

Are there any National Standards applicable to the design of an organizational structure for a fire department?

The National Fire Protection Association recommends that there be an organization plan which addresses the relationships of the various divisions or functions of the fire department. The Association recognizes that how the fire department is organized is dependent upon the size and scope of the department and its operations. Additionally, the number of chief officers needed is dependent on the size of the department, recognizing that some functions can be combined to reduce the required number of officers.

DISCUSSION

The results of the literature review indicated that the functional based design of a fire department organizational structure is most common. It was noted that the organizational structure must change with the environment, service demands, and the population area served by the fire department. Many departments, however, have too many layers of management. In some cases, budget constraints resulted in a downsizing or reorganization of the management structure.

The fire chief is expected to carry out a plan that best suits the need of the fire department, not just based on tradition. He is required to use existing resources effectively, but recognize that if plans change, the organizational structure may change.

The survey results indicated that more than 92% of the fire departments similar in size to the Fire District have a deputy chief, and all the departments have either a deputy or assistant chief. Of those departments with a deputy chief, almost 70% have another level of chief officer. Overall, more than 71% of the fire departments have more than one type of chief officer, not including the fire chief. These results would seem to conflict with some beliefs in the literature review supporting fewer layers of chief officers. The survey results indicated that the majority of the assignments were based on the functional aspects of the fire department. This design was most commonly found in the literature review.

In general, while some other organizations identified in the literature review were

reviewing and redefining organizational structures, the Chicago metropolitan area departments appear to be more traditional in organizational design. Almost three-quarters of similar sized fire departments in the Chicago area have multiple layers of chief officers.

The fire departments having these layers of chief officers have not indicated any significant changes planned for their organizations. It is unknown if this is due to the organizational structure being considered successful or because there is an unwillingness to change the more traditional design. The researcher believes that the reason is a combination of both. The fire service in general is reluctant to change, and the resistance is even greater to reduce promotional opportunities that are already considered limited.

The researcher also believes that geographic location is an important factor. All of the literature review findings were based on departments or situations outside of the Chicago area. The metropolitan Chicago region has experienced tremendous growth and economic success over the past decade. Many fire departments have grown in size as the communities have expanded. There has been limited budgetary constraints placed on many fire departments, which may result in less scrutiny of the management structure.

Appendix I compares the Carol Stream Fire Protection District with the survey results of similar sized fire departments. The comparison suggests that the Fire District has less chief officers than other fire departments deemed similar. If the numbers are rounded, the Fire District has one less chief officer than these other departments. However, the District already has more

chief officers working days then do others.

The most significant figures for the Fire District are that all of the similar sized fire departments have either a deputy or assistant chief position and almost 70% of those also have another level of chief officer. This would suggest that the Fire District may be understaffed in the type or number of chief officer positions.

RECOMMENDATIONS

The Fire District has recognized that the continued growth in residential and commercial/industrial properties will result in greater service demands. As a result, the Fire District has developed a multi-year staffing plan that steadily increases the number of full-time firefighters. The plan is based on the need for additional fire apparatus or ambulance staffing over the next five years. It is the management structure of the Fire District that planning has not been completed and is the basis of this study.

As a result of this project, the researcher makes the following recommendations:

1. Create the position of deputy or assistant chief for the Fire District. This position would be second-in-command of District operations.
2. Change the title of fire captain to battalion chief.
3. Assign responsibilities of the three battalion chiefs to the functional areas of training, fire prevention, and operations.

4. Maintain the current daytime assignments of the battalion chiefs with shift emergency response in order to reduce the need for shift battalion chiefs.

Appendix J contains the recommended organizational structure for the Fire District.

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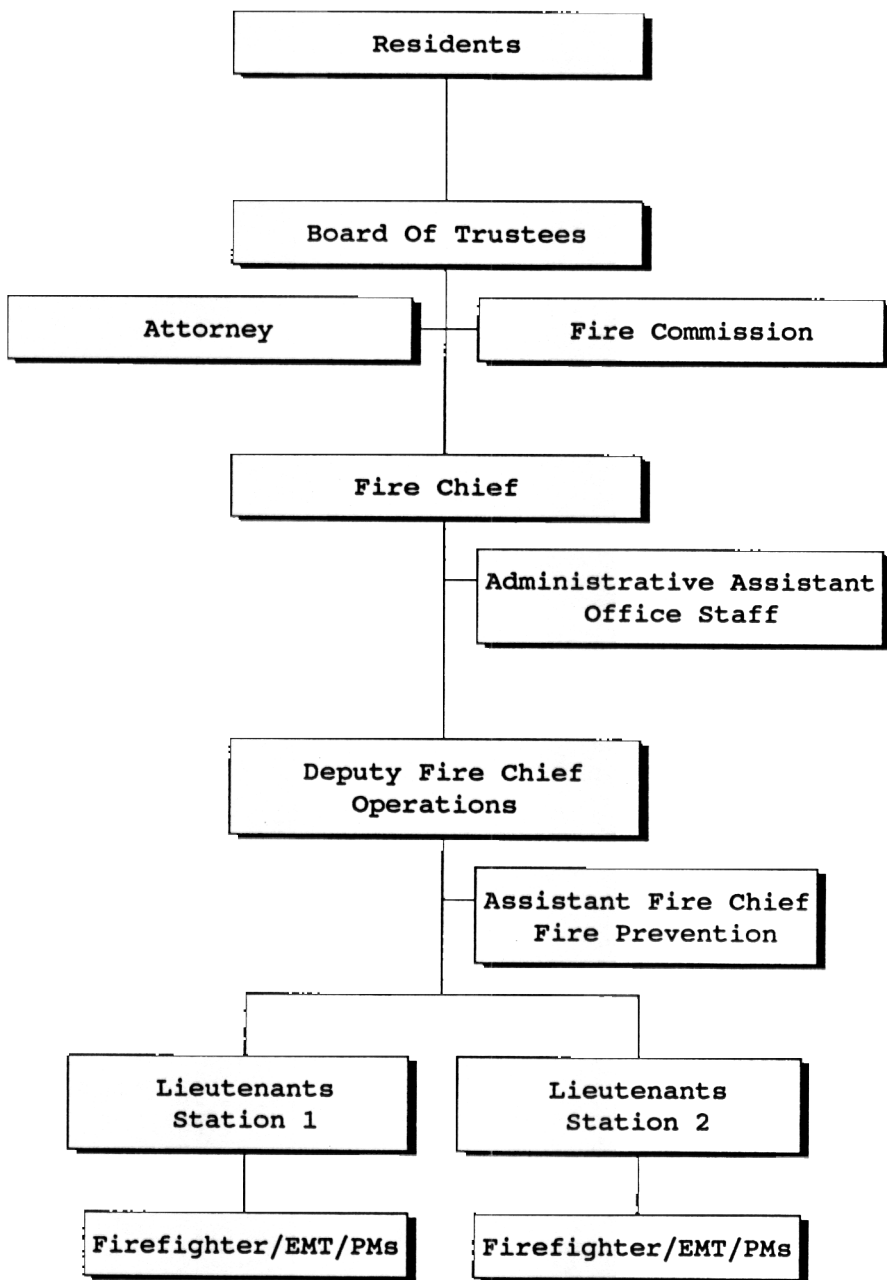
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APPENDIX A

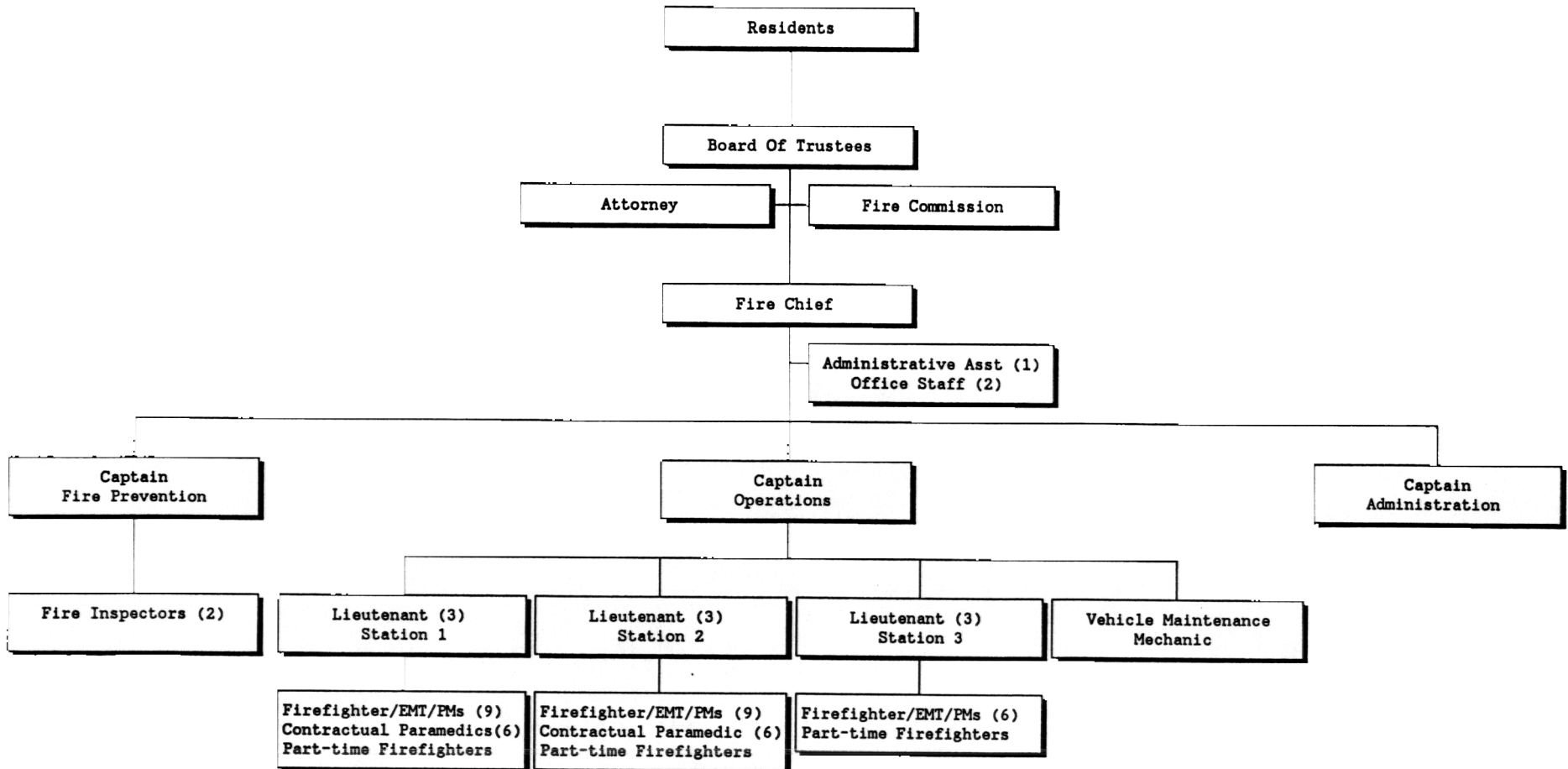
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CAROL STREAM FIRE PROTECTION DISTRICT
ORGANIZATIONAL CHART
Prior to 1992



APPENDIX B

CAROL STREAM FIRE PROTECTION DISTRICT
ORGANIZATIONAL CHART



January, 1997

APPENDIX C

NATIONAL FIRE ACADEMY
EXECUTIVE FIRE OFFICER PROGRAM
APPLIED RESEARCH PROJECT

ORGANIZATIONAL STRUCTURE SURVEY

Fire Department/District Name _____

Population of area served _____

Number of fire stations _____

Please indicate the number of full-time employees:

Fire Chief

Deputy Fire Chief

Assistant Fire Chief

Division Chief (Includes Training Chief, Fire Prevention Chief, Fire Marshal etc.)

Battalion Chief

_____ Captain

Lieutenant

Firefighter (Includes paramedics and contractual personnel)

2. Please indicate the main responsibilities of:

a) Deputy Chief (s)

Question 2, cont'd

b) Assistant Chief (s)

c) Division Chief (s)

3. Of the following officer ranks, how many of each work an 8 hour day (40 hour week)?

Deputy Chief

Assistant Chief

Division Chief

Battalion Chief

4. Are you considering any changes in your organization that would result in more or less chief officers? If so, please explain.

APPENDIX D

DEMOGRAPHIC CHARACTERISTICS

<u>Population</u>	<u>Respondents</u>	<u>Percent</u>
Less than 10,000	13	15.3%
10,000 to 20,000	24	28.2%
20,000 to 30,000	21	24.7%
30,000 to 50,000	14	16.5%
More than 50,000	13	15.3%

<u>Full-time Employees</u>	<u>Respondents</u>	<u>Percent</u>
25 or less	36	42.4%
26 to 50	25	29.4%
51 to 75	12	14.1%
76 to 99	8	
100 or more	4	

APPENDIX E

ANALYSIS OF RESPONSES TO SURVEY QUESTION 1

Average number of chief officers compared to number of full-time employees(FTE) (Includes fire chief)

<u>Number of FTE</u>	<u>Number</u>
Less than 25	1.6
26 to 50	2.6
51 to 75	
76 to 99	
More than 100	7.3

Ratio of chief officers to firefighters and lieutenants
(Includes fire chief)

<u>Population</u>	<u>Ratio</u>
Less than 10,000	
10,000 to 20,000	
20,000 to 30,000	1:10.9
30,000 to 50,000	1:11.1
More than 50,000	1:12.7

Average number of chief officers per fire station
(Includes fire chief)

<u>Population</u>	<u>Number</u>
Less than 10,000	1.1
10,000 to 20,000	1.3
20,000 to 30,000	1.2
30,000 to 50,000	1.6
More than 50,000	1.6

Number of chief officers per department
(Includes fire chief)

<u>Population</u>	<u>Number</u>
Less than 10,000	1.5
10,000 to 20,000	1.8
20,000 to 30,000	
30,000 to 50,000	4.6
More than 50,000	

Percentage of departments with selected chief officers

<u>Population</u>	<u>Deputy</u>	<u>Assistant</u>	<u>Division</u>	<u>Battalion</u>
Less than 10,000	30.7%	15.3%	7.0%	0.0%
10,000 to 20,000	25.0%	4.0%	4.0%	12.5%
20,000 to 30,000	33.3%	9.5%	23.8%	19.0%
30,000 to 50,000	92.8%	50.0%	50.0%	21.4%
More than 50,000	76.9%	30.7%	46.1%	61.5%

Average number of selected chief officers (Of those that have them)

<u>Population</u>	<u>Deputy</u>	<u>Assistant</u>	<u>Division</u>	<u>Battalion</u>
Less than 10,000	1.0	1.0	.0	0.0
10,000 to 20,000	1.3	2.0	1.0	3.6
20,000 to 30,000	1.0	1.0	1.2	3.0
30,000 to 50,000	1	1.3	1.6	3.0
More than 50,000	1.7	1.8	2.7	4.0

Percentage of departments that have either
a deputy or assistant chief position

<u>Population</u>	<u>Percent</u>
Less than 10,000	46.2%
10,000 to 20,000	29.2%
20,000 to 30,000	38.1%
30,000 to 50,000	100.0%
More than 50,000	84.6%

Percentage of departments that have either
a deputy or assistant chief position

<u>Number of FTE</u>	<u>Percent</u>
Less than 25	38.9%
26 to 50	40.0%
51 to 75	91.7%
76 to 99	87.5%
More than 100	100.0%

Percentage of departments that have more than one type
of chief officer (Not including fire chief)

<u>Population</u>	<u>More Than One Type</u>
Less than 10,000	
10,000 to 20,000	
20,000 to 30,000	14.0%
30,000 to 50,000	71.4%
More than 50,000	84.6%

Of departments that have at least one deputy chief, how many also
have an assistant or division chief?

<u>Population</u>	<u>Percent</u>
Less than 10,000	25.0%
10,000 to 20,000	0.0%
20,000 to 30,000	28.5%
30,000 to 50,000	69.2%
More than 50,000	70.0%

Of departments that have at least one deputy chief, how many also have more than one assistant or division chief?

<u>Population</u>	<u>Percent</u>
Less than 10,000	0.0%
10,000 to 20,000	
20,000 to 30,000	28.5%
30,000 to 50,000	38.4%
More than 50,000	30.0%

Of departments that have a deputy chief, how many have more than one?

<u>Population</u>	<u>Percent</u>
Less than 10,000	
10,000 to 20,000	16.6%
20,000 to 30,000	0.0%
30,000 to 50,000	30.7%
More than 50,000	30.0%

Of departments that have more than one deputy chief, how many have an assistant or division chief?

<u>Population</u>	<u>Percent</u>
Less than 10,000	0.0%
10,000 to 20,000	0.0%
20,000 to 30,000	0.0%
30,000 to 50,000	100.0%
More than 50,000	66.6%

APPENDIX F

ANALYSIS OF RESPONSES TO SURVEY QUESTION 2

Responsibilities of deputy chief position

<u>Responsibility</u>	<u>Percent</u>
Operations	77.8%
Support Services	15.5%
Shift Supervisor	6.7%

Responsibilities of assistant chief position

<u>Responsibility</u>	<u>Percent</u>
Support Services	50.0%
Operations	45.0%
Shift Supervisor	5.0%

Responsibilities of division chief position

<u>Responsibility</u>	<u>Percent</u>
Fire Prevention	57.3%
Training	28.5%
Operations	9.5%
Support Services	4.7%

APPENDIX G

ANALYSIS OF RESPONSES TO SURVEY QUESTION 3

How many departments have chief officers working a day shift
(Not including fire chief)

<u>Population</u>	<u>Percent</u>
Less than 10,000	46.0%
10,000 to 20,000	33.0%
20,000 to 30,000	52.0%
30,000 to 50,000	100.0%
More than 50,000	100.0%

Average number of daytime chief officers (of those that have them)
(Not including fire chief)

<u>Population</u>	<u>Number</u>
Less than 10,000	1.0
10,000 to 20,000	1.3
20,000 to 30,000	1.4
30,000 to 50,000	
More than 50,000	

APPENDIX H

ANALYSIS OF RESPONSES TO SURVEY QUESTION 4

<u>Population</u>	<u>Add Deputy Chief</u>
Less than 10,000	2
10,000 to 20,000	2
20,000 to 30,000	9
30,000 to 50,000	0
More than 50,000	1

<u>Population</u>	<u>Move Shift Commanders to Days</u>
Less than 10,000	0
10,000 to 20,000	0
20,000 to 30,000	0
30,000 to 50,000	0
More than 50,000	1

<u>Population</u>	<u>Add Shift Commanders to Shift</u>
Less than 10,000	0
10,000 to 20,000	0
20,000 to 30,000	0
30,000 to 50,000	1
More than 50,000	1

APPENDIX I

**COMPARISON OF THE CAROL STREAM FIRE PROTECTION
DISTRICT TO SIMILAR SIZED DEPARTMENTS**

	<u>Fire District</u>	<u>Others</u>
Number of chief officers per full-time employee	4.0	
Ratio of chief officers to ~ firefighters/lieutenants	1:12.3	1:11.1
Number of chief officers per fire station	1.3	
Number of chief officers per department	4.0	
Selected Positions		
deputy chief	No	92.8% have position
assistant chief	No	50% have position
division chief	No	50% have position
battalion chief	Yes	21.4% have position
Number of daytime chief officers (other than fire chief)	3.0	

APPENDIX J

CAROL STREAM FIRE PROTECTION DISTRICT
PROPOSED
ORGANIZATIONAL CHART

